

# BAV19WS, BAV20WS, BAV21WS-CH

## Silicon Epitaxial Planar Diodes

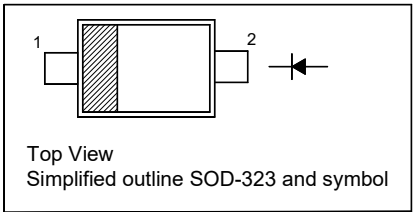
High voltage switching diode

### Features

- AEC-Q101 Qualified
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- Halogen and Antimony Free(HAF), RoHS compliant

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



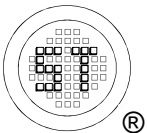
### Absolute Maximum Ratings ( $T_a = 25^{\circ}\text{C}$ )

Parameter		Symbol	Value	Unit
Repetitive Peak Reverse Voltage	BAV19WS BAV20WS BAV21WS	$V_{RRM}$	120 200 250	V
Reverse Voltage	BAV19WS BAV20WS BAV21WS	$V_R$	100 150 200	V
Average Rectified Forward Current		$I_{F(AV)}$	250	mA
Forward Continuous Current		$I_{FM}$	400	mA
Repetitive Peak Forward Current	$t_p \leq 0.5 \text{ ms}$	$I_{FRM}$	1	A
Non-Repetitive Peak Forward Surge Current	at $t = 100 \mu\text{s}$ at $t = 1 \text{ ms}$ at $t = 10 \text{ ms}$ at $t = 1 \text{ s}$	$I_{FSM}$	3 2.3 1.7 0.5	A
Power Dissipation		$P_D$	200	mW
Operating Junction and Storage Temperature Range		$T_j, T_{stg}$	- 65 to + 150	$^{\circ}\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$

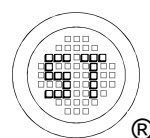
<sup>1)</sup> Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.



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## Characteristics at $T_a = 25^\circ\text{C}$

Parameter		Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage at $I_R = 100\ \mu\text{A}$	BAV19WS BAV20WS BAV21WS	$V_{(BR)R}$	120 200 250	- - -	V
Reverse Current at $V_R = 100\ \text{V}$ at $V_R = 150\ \text{V}$ at $V_R = 200\ \text{V}$	BAV19WS BAV20WS BAV21WS	$I_R$	- - -	100 100 100	nA
Forward Voltage at $I_F = 100\ \text{mA}$ at $I_F = 200\ \text{mA}$		$V_F$	- -	1 1.25	V
Total Capacitance at $V_R = 0$ , $f = 1\ \text{MHz}$		$C_T$	-	5	pF
Reverse Recovery Time at $I_F = I_R = 30\ \text{mA}$ , $I_{RR} = 0.1 \times I_R$ , $R_L = 100\ \Omega$		$t_{rr}$	-	50	ns



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## Electrical Characteristic Curve

Fig 1. Power Derating Curve

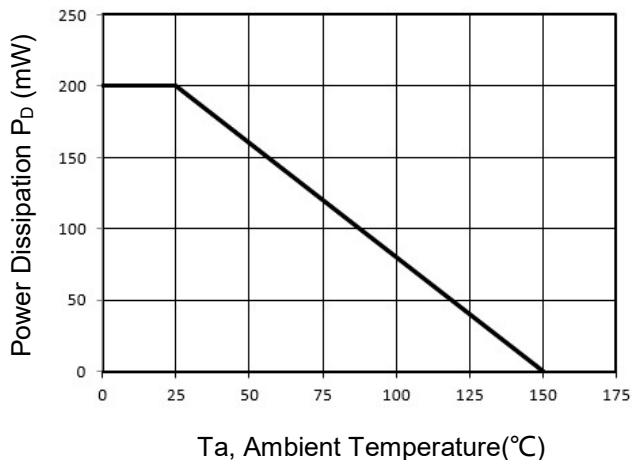


Fig 2. Forward Characteristic Curve

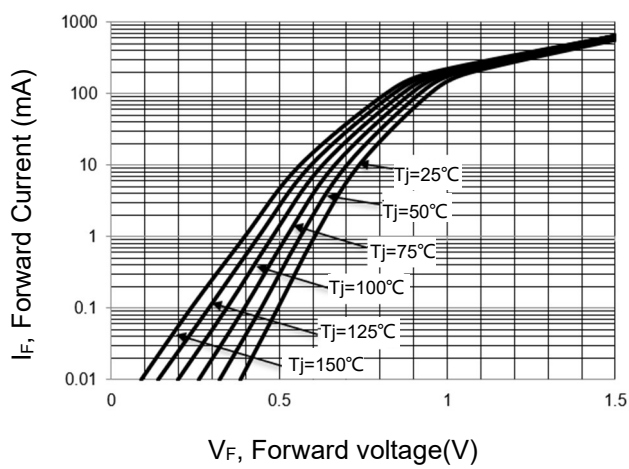


Fig 3. Reverse Characteristic Curve

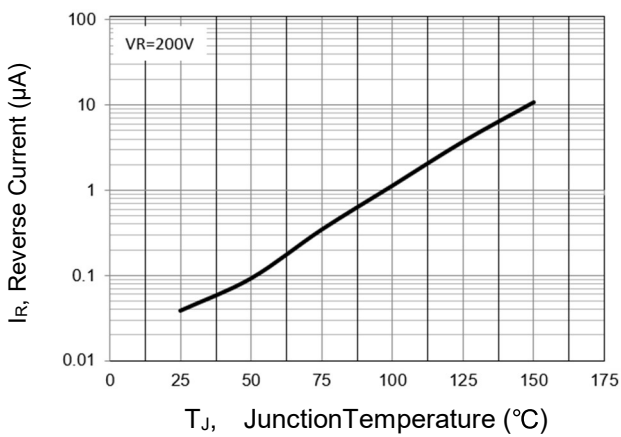
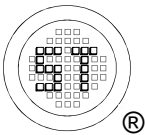
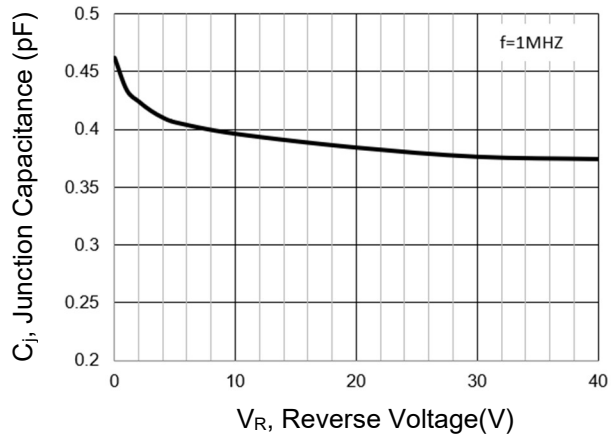


Fig 4. Junction Capacitance

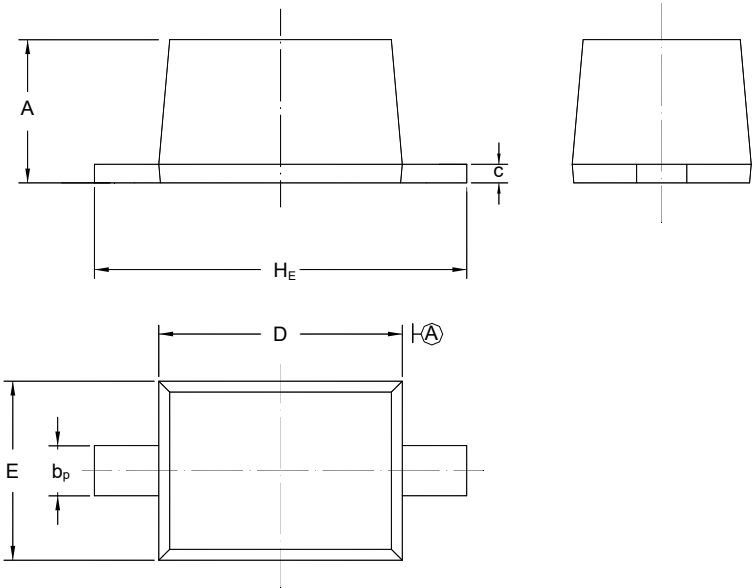


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## PACKAGE OUTLINE

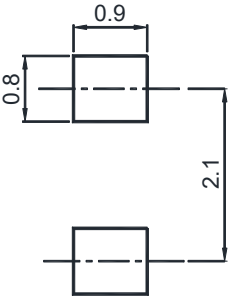
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	b <sub>p</sub>	C	D	E	H <sub>E</sub>
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

## Recommended Soldering Footprint



## Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

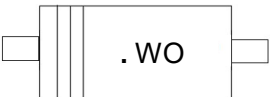
## Marking information

" WO " = Part No.

" III " = Cathode line

" • " = HAF (Halogen and Antimony Free)

Font type: Arial



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